

ABSTRACT OF THE DISCLOSURE

A bridge circuit and method of transferring data is disclosed. The bridge circuit comprises a first interface circuit operable to receive data from a data source at a first data rate; a second interface circuit operable to transmit said data to a data receiver at a second data rate; a data coupling circuit comprising: a synchronous coupling circuit operable to pass said data synchronously between said first interface circuit and said second interface circuit; and an asynchronous coupling circuit operable to pass said data asynchronously between said first interface circuit and said second interface circuit. The bridge circuit further comprises control logic responsive to a synchronous transfer request signal indicating that either said first data rate is an integer multiple of said second data rate or said second data rate is an integer multiple of said first data rate to cause data to be passed by said synchronous coupling circuit once any data within said asynchronous coupling circuit has been emptied. Hence, the bridge circuit can dynamically switch to support synchronous data transfer which reduces the latency caused by the bridge circuit and improves the efficiency of data transfers between the data source and the data receiver. Also, the control logic prevents data from being passed through the synchronous coupling circuit until all the data in the asynchronous coupling circuit has been transmitted to ensure that no data is lost when a switch is requested.